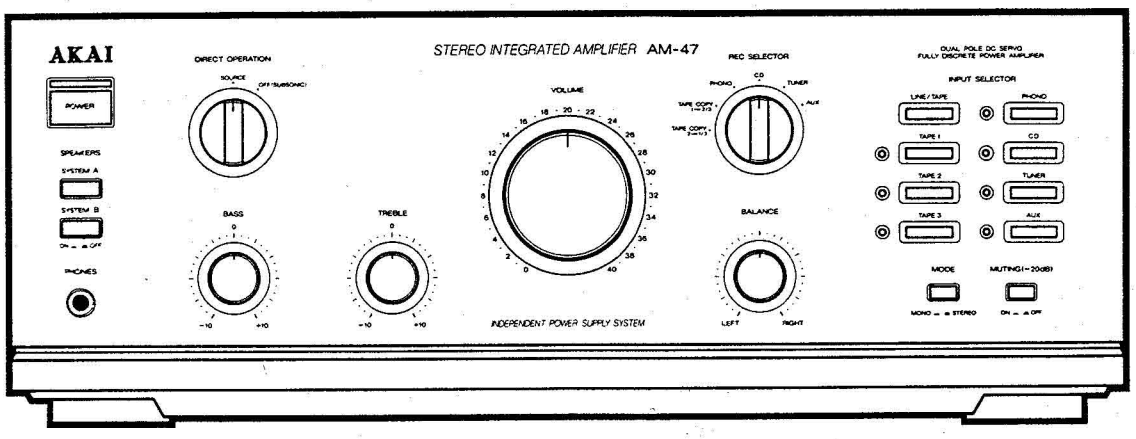
AKAI SERVICE MANUAL



MODEL AM-47

STEREO INTEGRATED AMPLIFIER

MODEL AM-37/47

SPECIFICATIONS

Power output	
AM-47	120 W+120 W (DIN, 4 ohms at 1 kHz, 1% distortion)
	80 W + 80 W (FTC, 8 ohms at 30 Hz to 20 kHz, 0.05 % distortion)
AM-37	90 W + 90 W (DIN, 4 ohms at 1 kHz, 1% distortion)
	60 W+60 W (FTC, 8 ohms at 30 Hz to 20 kHz, 0.05 % distortion)
Power band width	
AM-47	5 Hz to 60 kHz / 0.1 % distortion
AM-37	10 Hz to 60 kHz / 0.1% distortion
Total harmonic distortion	0.005 % (1 kHz, 8 ohms)
Frequency responce	5 Hz to 100 kHz (+0 dB, –3 dB)
Tone control	
BASS	±8 dB (100 Hz)
TREBLE	±8 dB (10 kHz)
Input sensitivity/Impedance	
PHONO (MM)	2.5 mV / 47 kohms
TUNER, etc.	150 mV / 47 kohms
Maximum input level	
PHONO	160 mV
TUNER, etc.	5.0 V (at tone control flat)
Output level / Impedance	
TAPE REC OUT	150 mV /1 kohms
Damping factor	45 (1 kHz, 8 ohms)
Residual noise	0.1 mV (IHF-A)

S / N ratio	
AM-47 PHONO (MM)	85 dB (IHF-A)
TUNER, etc.	101 dB (IHF-A)
AM-37 PHONO (MM)	84 dB (IHF-A)
TUNER, etc.	100 dB (IHF-A)
Audio mute	–20dB
Subsonic filter	16 Hz (–12dB /oct)
Channel separation	60 dB (1 kHz) / 50 dB (10 kHz)
Cross talk	
PHONO	70 dB (1kHz, 5.0 mV Input level)
TUNER, etc.	75 dB (1kHz, 500 mV Input level)
Required speaker impedance	
A or B	4 to 16 ohms
A and B	8 to 16 ohms
Power requirements	220–230 V, 50 Hz for Europe except UK
	240 V, 50 Hz for UK
Power consumption	
AM-47	230 W
AM-37	190 W
Dimensions	425 (W) X 156 (H) X 370 (D) mm (16.7 X 6.1 X 14.6 inches)
Weight	
AM-47	10.5 kg
AM-37	9.9 kg

Standard accessory

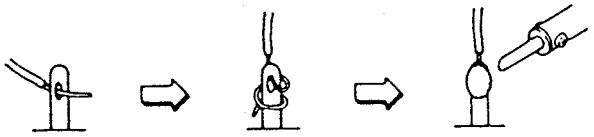
Operator's manual	1

* For improvement purposes, specifications and design are subject to change without notice.

★ SAEETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts indentified by the ⚠ (*) symbol are critical for safety. Replace only with parts number specified
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing micro switch (especially in turntable)
5. When replacing AC primary side components (transfomers, power cords,noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering



6. Observe that wires do not contact heat producing parts (heatsinks,oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder,droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts areacceptably insulated from the supply circuit.
The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphonejacks, signal-input/output connectors, etc.) and the earthground through a resister of 1500 ohms paralleled with a 0.15 µF capacitor, under the unit's normal working conditions. The leakage-current should be less than 0.5 mA rms AC.
The resistance measurement should be done betweenaccessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 Mohms.

★ INFORMATION

SYMBOLS FOR PRIMARY DESTINATION

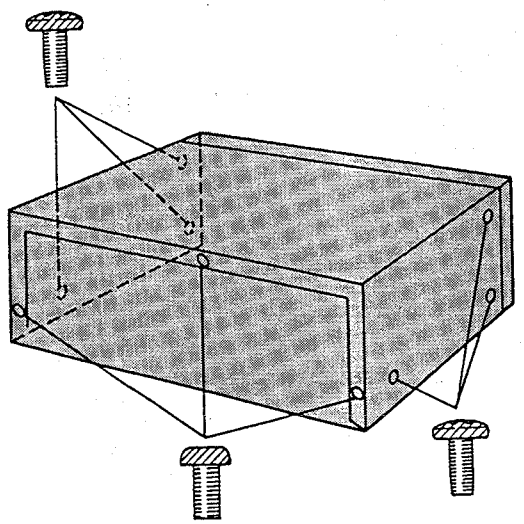
Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
A	USA
B	UK
C	Canada
E	Europe (except UK)
J	Japan
S	Australia
V	Germany
U	Universal Area
Y*	Custom version

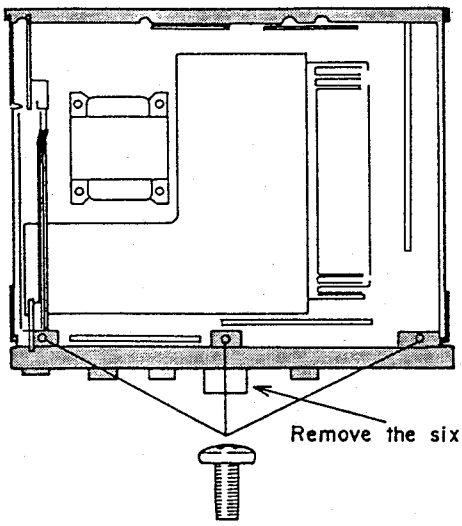
I. DISASSEMBLY

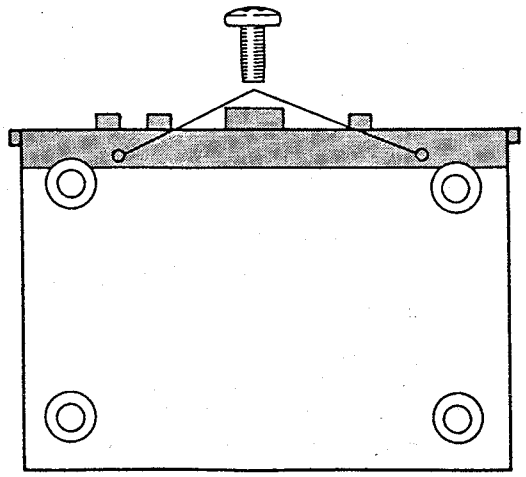
In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the illustrations.
Reassemble in reverse order.

1. Removal of UPPER COVER

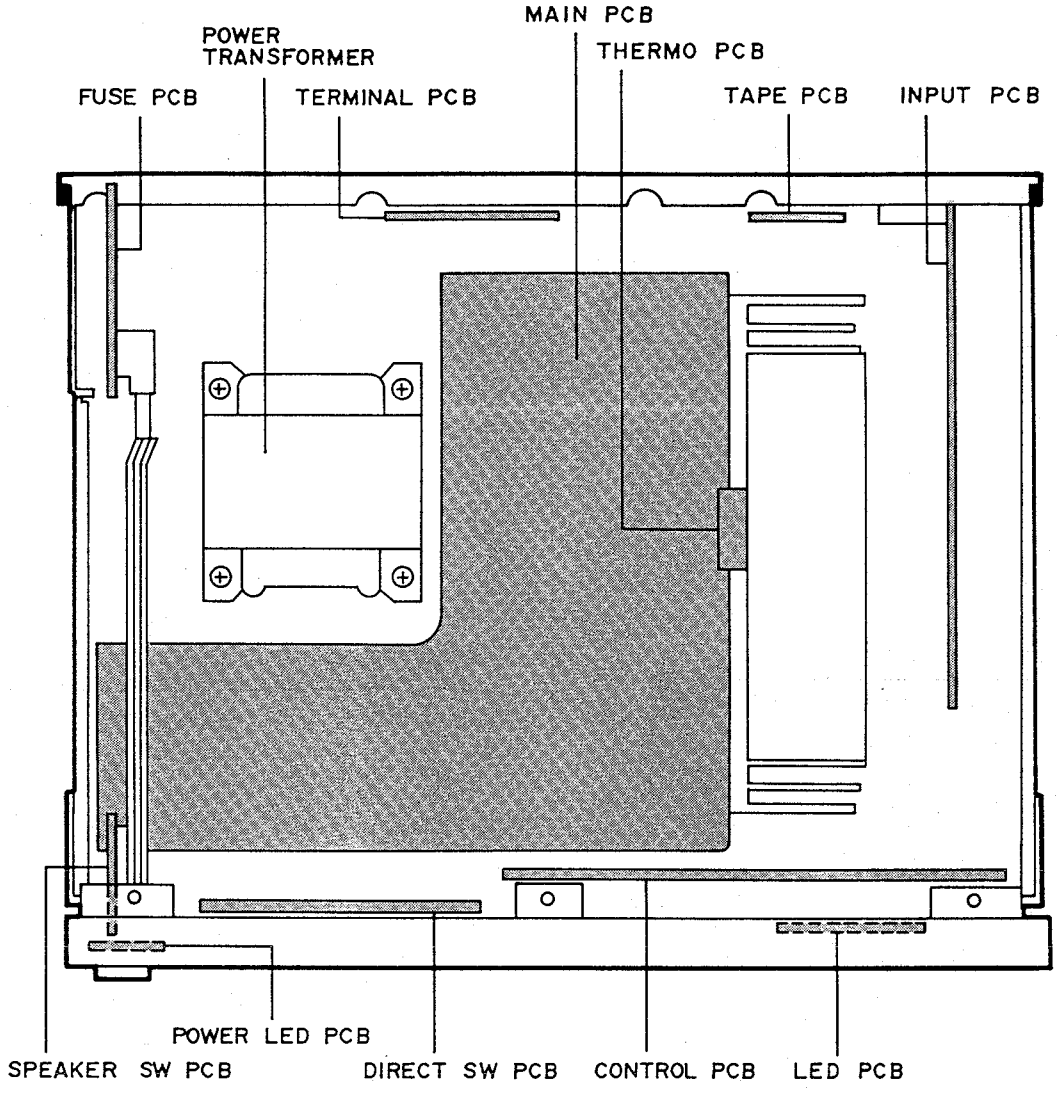


2. Removal of FRONT PANEL





II. PRINCIPAL PARTS LOCATION



III. PARTS LIST

ATTENTION

1. **When placing an order for parts, be sure to list Part No., Model No. and the description of eachpart. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.**
2. **Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.**
3. **Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.**

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

Ref. No.	Part No.	Description
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

b) PC Board

6. MAIN PC BOARD

Ref. No.	Part No.	Description
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A] : AAL (U.S.A) [S] : SAA (Australia)
[B] : BEAB (England) [U] : U/T (Universa Area)
[C] : CSA (Canada)
[E] : CEE (Europe) [V] : VDE (W. Germany)
[J] : JPN (Japan) [Y] : Custom Version

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No.listed at right of Part No.

WARNING

⚠ (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

⚠ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉDE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

1.RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref.No.	Part No.	Description
1	*BT-391368J1	TRANS POW A2062 BS [B] [AM-47]
2	*BT-391371J1	TRANS POW A2063 BS [B] [AM-37]
3	*BT-401271J	TRANS POW A2069-E,V [E,V] [AM-37]
4	*BT-401272J	TRANS POW A2070-E,V [E,V] [AM-47]
5	ED-383034J	D LED SLR-54PC3F L,M GREEN
6	ED-400680J	D LED SLR33MC70F80 GREEN T05
7	*ED-379981J	D SILICON EG01LF-F4 F10 400/0.7A
8	*ED-348990	D SILICON H DS446
9	ED-624903	D SILICON H 1S2473
10	*ED-384278J	D SILICON RBV602 200/6.0A
11	*ED-511907	D SILICON 1N4002 100/1.0A
12	ED-346549	D ZENER H HZ11B1L
13	ED-346558	D ZENER H HZ12B1L
14	ED-346564	D ZENER H HZ15-1L [AM-37]
15	ED-346567	D ZENER H HZ16-1L
16	ED-346570	D ZENER H HZ18-3L [AM-47]
17	ED-346571	D ZENER H HZ20-1L
18	ED-346583	D ZENER H HZ30-3L
19	*EF-364518	FUSE BET T 250V 2.50A [B] [AM-37]
20	*EF-359225	FUSE BET T 250V 3.15A [B] [AM-47]
21	*EF-355374	FUSE BET T 250V 500MA [B]
22	*EF-623125	FUSE SEMKO T 250V 2.50A [E,V] [AM-37]
23	*EF-691007	FUSE SEMKO T 250V 3.15A [E,V] [AM-47]
24	*EF-593706	FUSE SEMKO T 250V 500MA [E,V]
25	EI-393323J	IC M5218AL-771
26	EI-393325J	IC M5218AP
27	EI-393326J	IC M5218AP-721
28	EI-354080	IC UPC1237H
29	EQ-388322J	RELAY POW VB24SMBU-522UL 24V
30	ER-368226	R CT P R33+R33 5W
31	*ER-341493	R FUSE H S10 ERD2FC 1/4W 1001G
32	*ER-338000	R FUSE H S10 ERD2FC 1/4W 2200G
33	*ER-344161	R FUSE H S10 ERD2FC 1/4W 82R0G
34	*ES-361970	SW PUSH SDDLB1 01-1
35	ES-401265J	SW PUSH SPEC22 2THROW S [AM-47]
36	ES-401266J	SW PUSH SPEC42 4THROW N
37	ES-401267J	SW PUSH SPEC42 4THROW N
38	ES-401263J	SW ROTARY SRBV22 02-02N
39	ES-401264J	SW ROTARY SRRZU6 06-06N
40	ET-354897	TR FET 2SK170 BL,GR,V
41	ET-359827	TR FET 2SK246 BL
42	*ET-345626	TR 2SA1248 S,T
43	ET-352726	TR 2SA1392 T,U
44	*ET-390074J1	TR 2SA1491 P,Y LF118 [AM-37]
45	*ET-390075J1	TR 2SA1492 P,Y LF118 [AM-47]
46	ET-305463	TR 2SA970 GR,BL
47	*ET-354601	TR 2SB941 P,Q
48	ET-307195	TR 2SC2240 GR,BL
49	ET-348830	TR 2SC2909 S,T
50	ET-370038	TR 2SC2910 S,T
51	*ET-345625	TR 2SC3116 S,T
52	ET-378524J	TR 2SC3383 S,T,U
53	*ET-390070J1	TR 2SC3855 P,Y LF118 [AM-37]
54	*ET-390072J1	TR 2SC3856 P,Y LF118 [AM-47]
55	*ET-371028	TR 2SD1266 P,Q
56	EV-401268J	VR ROTARY RK16312 A104X2
57	EV-401270J	VR ROTARY RK16312 B103X2
58	EV-401269J	VR ROTARY RK16312 SPL W104

2. P.C BOARD BLOCK

Ref.No.	Part No.	Description
1A	BA-A2069A020C	PC(#) MAIN AMP BLK AM-37(E)
1B	BA-A2069A020D	PC(#) MAIN AMP BLK AM-37(V)
1C	BA-A2069A020A	PC(#) MAIN AMP BLK AM-47(E)
1D	BA-A2069A020B	PC(#) MAIN AMP BLK AM-47(V)
2A	BA-A2069A030A	PC(#) CONTROL BLK AM-37(E)
2B	BA-A2069A030B	PC(#) CONTROL BLK AM-37(V)
2C	BA-A2069A030C	PC(#) CONTROL BLK AM-47(E)
2D	BA-A2069A030D	PC(#) CONTROL BLK AM-47(V)

PC(#) MAIN AMP BLK CONSISTS OF FOLLOWING P.C BOARD.

- MAIN AMP P.C BOARD
- FUSE P.C BOARD
- TERMINAL P.C BOARD
- SPEAKER SW P.C BOARD
- THERMO P.C BOARD

PC(#) CONTROL BLK CONSISTS OF FOLLOWING P.C BOARD.

- INPUT P.C BOARD
- CONTROL P.C BOARD
- DIRECT SW P.C BOARD
- TAPE P.C BOARD
- LED P.C BOARD
- POWER LED P.C BOARD

3. MAIN AMP P.C BOARD

Ref.No.	Part No.	Description
C1A	EC-390066J	C EC V S10 682M 50.0DC [AM-37]
C1B	EC-390067J	C EC V S10 822M 56.0DC [AM-47]
C2A	EC-390066J	C EC V S10 682M 50.0DC [AM-37]
C2B	EC-390067J	C EC V S10 822M 56.0DC [AM-47]
C4	EC-201643	C EC V CUT AS1 471M 80.0DC
C5	EC-201643	C EC V CUT AS1 471M 80.0DC
D1	*ED-384278J	D SILICON RBV602 200/6.0A
D2	*ED-379981J	D SILICON EG01LF-F4 F10 400/0.7A
D3	*ED-379981J	D SILICON EG01LF-F4 F10 400/0.7A
D4	ED-383034J	D LED SLR-54PC3F L,M GREEN
D5	ED-383034J	D LED SLR-54PC3F L,M GREEN
D6	ED-346583	D ZENER H HZ30-3L
D7A	ED-346564	D ZENER H HZ15-1L [AM-37]
D7B	ED-346570	D ZENER H HZ18-3L [AM-47]
D8	ED-346583	D ZENER H HZ30-3L
D9A	ED-346564	D ZENER H HZ15-1L [AM-37]
D9B	ED-346570	D ZENER H HZ18-3L [AM-47]
D12	*ED-511907	D SILICON 1N4002 100/1.0A
D13	*ED-511907	D SILICON 1N4002 100/1.0A
D14	ED-346567	D ZENER H HZ16-1L
D15	ED-346567	D ZENER H HZ16-1L
D20	*ED-511907	D SILICON 1N4002 100/1.0A
D21	ED-346558	D ZENER H HZ12B1L
D23	ED-346549	D ZENER H HZ11B1L
D24	ED-346571	D ZENER H HZ20-1L
D25	ED-346571	D ZENER H HZ20-1L
D26	ED-624903	D SILICON H 1S2473
D27	ED-624903	D SILICON H 1S2473
D28	ED-624903	D SILICON H 1S2473
D29	ED-383034J	D LED SLR-54PC3F L,M GREEN
D32	ED-624903	D SILICON H 1S2473
D33	ED-624903	D SILICON H 1S2473
D34	ED-624903	D SILICON H 1S2473
D35	ED-624903	D SILICON H 1S2473
D36	*ED-348990	D SILICON H DS446
D37	ED-624903	D SILICON H 1S2473
D38	ED-624903	D SILICON H 1S2473
D41	ED-624903	D SILICON H 1S2473
FR1	*ER-341493	R FUSE H S10 ERD2FC 1/4W 1001G
FR2	*ER-338000	R FUSE H S10 ERD2FC 1/4W 2200G
FR3	*ER-338000	R FUSE H S10 ERD2FC 1/4W 2200G
IC1	EI-354080	IC UPC1237H
IC2	EI-393325J	IC M5218AP
L1	EO-337880	COIL FIX 2 202AK-018 2R2K
RL1	EQ-388322J	RELAY POW VB24SMBU-522UL 24V
R39	ER-368226	R CT P R33+R33 5W
TR1	ET-352726	TR 2SA1392 T,U
TR2	ET-378524J	TR 2SC3383 S,T,U
TR3	*ET-345625	TR 2SC3116 S,T
TR4	*ET-345626	TR 2SA1248 S,T
TR5	ET-359827	TR FET 2SK246 BL
TR6	ET-359827	TR FET 2SK246 BL
TR7	*ET-371028	TR 2SD1266 P,Q
TR8	*ET-354601	TR 2SB941 P,Q
TR13	*ET-371028	TR 2SD1266 P,Q
TR15	ET-348830	TR 2SC2909 S,T
TR16	ET-354897	TR FET 2SK170 BL,GR,V
TR17	ET-348830	TR 2SC2909 S,T
TR18	ET-354897	TR FET 2SK170 BL,GR,V
TR19	ET-305463	TR 2SA970 GR,BL
TR20	*ET-305463	TR 2SA970 GR,BL
TR21	*ET-305463	TR 2SA970 GR,BL
TR22	ET-305463	TR 2SA970 GR,BL
TR23	ET-370038	TR 2SC2910 S,T
TR24	ET-370038	TR 2SC2910 S,T
TR25	ET-370038	TR 2SC2910 S,T
TR26	ET-345625	TR 2SC3116 S,T
TR27	ET-345626	TR 2SA1248 S,T
TR28	*ET-345625	TR 2SC3116 S,T
TR29	*ET-345626	TR 2SA1248 S,T
TR30A	*ET-390070J1	TR 2SC3855 P,Y LF118 [AM-37]
TR30B	*ET-390072J1	TR 2SC3856 P,Y LF118 [AM-47]
TR31A	*ET-390074J1	TR 2SA1491 P,Y LF118 [AM-37]
TR31B	*ET-390075J1	TR 2SA1492 P,Y LF118 [AM-47]
TR32	ET-307195	TR 2SC2240 GR,BL
TR33	ET-305463	TR 2SA970 GR,BL
F3A	*EF-593706	FUSE SEMKO T 250V 500MA [E,V]
F3B	*EF-355374	FUSE BET T 250V 500MA [B]
F4A	*EF-593706	FUSE SEMKO T 250V 500MA [E,V]
F4B	*EF-355374	FUSE BET T 250V 500MA [B]
F5A	*EF-593706	FUSE SEMKO T 250V 500MA [E,V]
F5B	*EF-355374	FUSE BET T 250V 500MA [B]
F6A	*EF-593706	FUSE SEMKO T 250V 500MA [E,V]
F6B	*EF-355374	FUSE BET T 250V 500MA [B]

4. FUSE P.C BOARD

Ref.No.	Part No.	Description
C101	*EC-338496	C CE V DE7 FZ 472P 400AC
L101	*EO-337880	COIL FIX 2 202AK-018 2R2K
L102	*EO-337880	COIL FIX 2 202AK-018 2R2K
SW101	*ES-361970	SW PUSH SDDLB1 01-1
F1A	*EF-623125	FUSE SEMKO T 250V 2.50A [E,V] [AM-37]
F1B	*EF-364518	FUSE BET T 250V 2.50A [B] [AM-37]
F1C	*EF-691007	FUSE SEMKO T 250V 3.15A [E,V] [AM-47]
F1D	*EF-359225	FUSE BET T 250V 3.15A [B] [AM-47]

5. TERMINAL P.C BOARD

Ref.No.	Part No.	Description
TM201	EJ-390078J	TERMINAL W/SCREW LTS0810-1001

6. SPEAKER SW P.C BOARD

Ref.No.	Part No.	Description
J301	EJ-391132J	PHONE J 3P YKB24-5162 GP 6.3
SW301	ES-390080J	SW PUSH SPUL22 2THROW N

7. THERMO P.C BOARD

Ref.No.	Part No.	Description
TR501	*ET-345625	TR 2SC3116 S,T
TR502	*ET-345626	TR 2SA1248 S,T

8. INPUT P.C BOARD

Ref.No.	Part	No.Description
FR1	*ER-344161	R FUSE H S10 ERD2FC 1/4W 82R0G
FR2	*ER-344161	R FUSE H S10 ERD2FC 1/4W 82R0G
IC1	EI-393326J	IC M5218AP-721
J1	EJ-390097J	PIN J YKC21-0015B 4P
J2	EJ-390097J	PIN J YKC21-0015B 4P

9. CONTROL P.C BOARD

Ref.No.	Part	No.Description
SW101	ES-401264J	SW ROTARY SRRZU6 06-06N
SW102	ES-401266J	SW PUSH SPEC42 4THROW N
SW103	ES-401267J	SW PUSH SPEC42 4THROW N
SW104	ES-401265J	SW PUSH SPEC22 2THROW S [AM-47]
VR101	EV-401268J	VR ROTARY RK16312 A104X2
VR102	EV-401269J	VR ROTARY RK16312 SPL W104

10. DIRECT SW P.C BOARD

Ref.No.	Part	No.Description
IC201	EI-393323J	IC M5218AL-771
IC202	EI-393323J	IC M5218AL-771
SW201	ES-401263J	SW ROTARY SRBV22 02-02N
VR201	EV-401270J	VR ROTARY RK16312 B103X2
VR202	EV-401270J	VR ROTARY RK16312 B103X2

11. TAPE P.C BOARD

Ref.No.	Part	No.Description
J301	EJ-390102J	PIN J YKC21-0045A 6P
J302	EJ-390102J	PIN J YKC21-0045A 6P

12. LED P.C BOARD

Ref.No.	Part	No.Description
D401	ED-400680J	D LED SLR33MC70F80 GREEN T05
D402	ED-400680J	D LED SLR33MC70F80 GREEN T05
D403	ED-400680J	D LED SLR33MC70F80 GREEN T05
D404	ED-400680J	D LED SLR33MC70F80 GREEN T05
D405	ED-400680J	D LED SLR33MC70F80 GREEN T05
D406	ED-400680J	D LED SLR33MC70F80 GREEN T05
D407	ED-400680J	D LED SLR33MC70F80 GREEN T05

13. POWER LED P.C BOARD

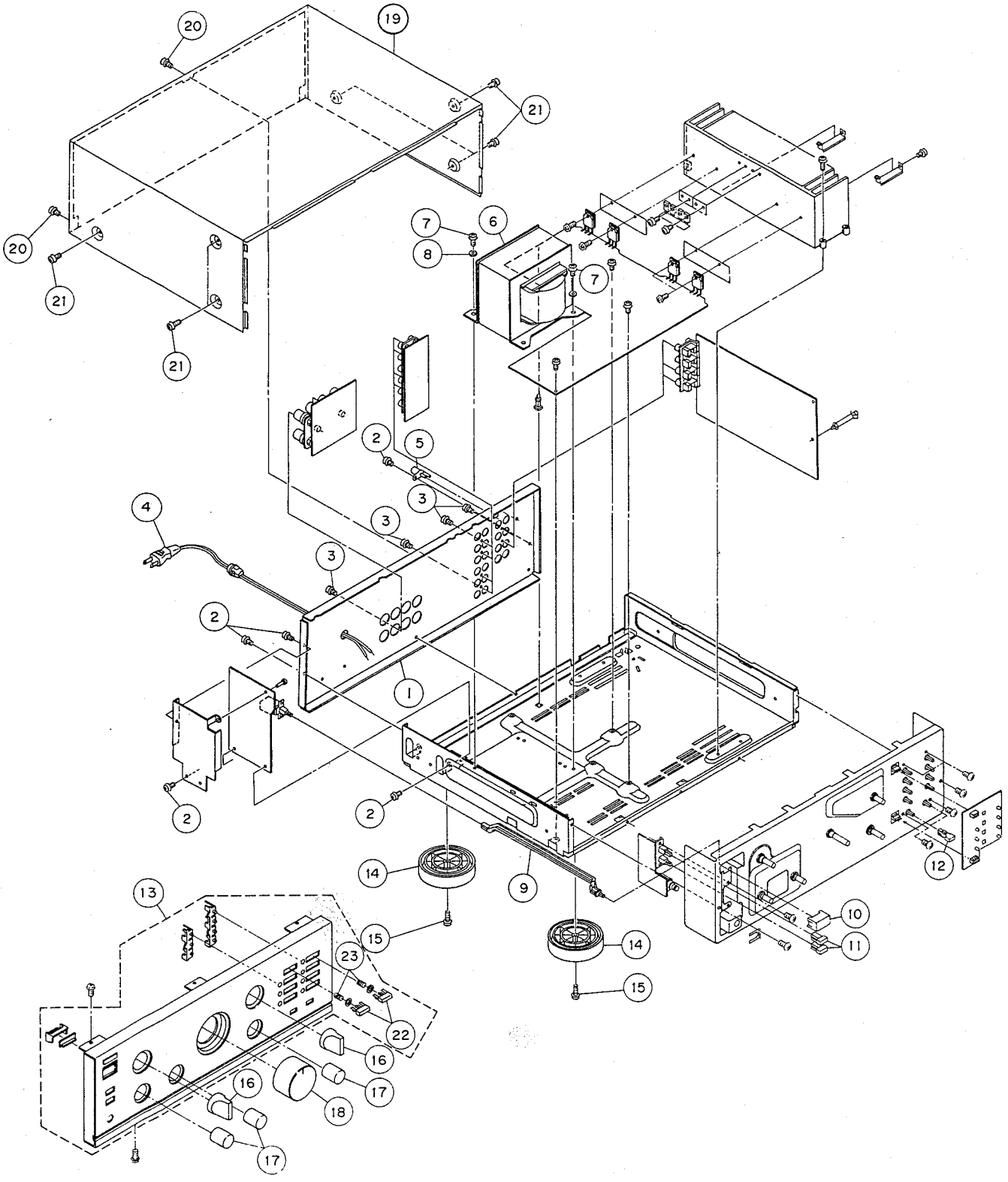
Ref.No.	Part	No.Description
D501	ED-400680J	D LED SLR33MC70F80 GREEN T05
D502	ED-400680J	D LED SLR33MC70F80 GREEN T05

14. FINAL ASSEMBLY BLOCK

Ref.No.	Part	No.Description
1A	SP-402635J	PANEL REAR AM-37(E)
1B	SP-402637J	PANEL REAR AM-37(V)
1C	SP-402638J	PANEL REAR AM-37(B)
1D	SP-402639J	PANEL REAR AM-47(E)
1E	SP-402640J	PANEL REAR AM-47(V)
1F	SP-402641J	PANEL REAR AM-47(B)
2	ZS-378722J	ST BR30X06STL BNI EARTH LOCK
3	ZS-354991	BT BR30X10STL CMT
4A	*EW-363670	AC CORD200 0364 LCFL B150 A FV [E,V]
4B	*EW-363682	AC CORD200 LCFL B150 A B [B]
5	EJ-329610	TERMINAL W/SCREW UB-0067 L 1P
6A	*BT-401271J	TRANS POW A2069-E,V [E,V] [AM-37]
6B	*BT-391371J1	TRANS POW A2063 BS [B] [AM-37]
6C	*BT-401272J	TRANS POW A2070-E,V [E,V] [AM-47]
6D	*BT-391368J1	TRANS POW A2062 BS [B] [AM-47]
7	ZS-346742	ST BID40X08STL CMT CUP
8	ZW-274026	SW50
9	MZ-370925	JOINT POWER
10-B	SK-373236B	KNOB POWER-B
10-G	SK-373236A	KNOB POWER-G
11-B	SK-373242B	KNOB MODE-BLACK
11-G	SK-373242A	KNOB MODE-GOLD
12-B	SK-384004J	KNOB PUSH [AM-47]
12-G	SK-390820J	KNOB PUSH G [AM-47]
13A-B	BD-A2069A040A	PANEL FRONT BLK AM-37-B
13A-G	BD-A2069A040B	PANEL FRONT BLK AM-37-G
13B-B	BD-A2069A040C	PANEL FRONT BLK AM-47-B
13B-G	BD-A2069A040D	PANEL FRONT BLK AM-47-G
14	SA-379375	FOOT(N)
15	ZS-354055	ST BR30X12STL CMT
16-B	SK-402589J	KNOB SELECTOR-B
16-G	SK-402590J	KNOB SELECTOR-G
17-B	SK-402587J	KNOB BALANCE-B
17-G	SK-402588J	KNOB BALANCE-G
18-B	SK-402591J	KNOB VOLUME-B PART
18-G	SK-402593J	KNOB VOLUME-G PART
19-B	SP-391360J	COVER UPPER B
19-G	SP-390812J	COVER UPPER G
20	ZS-387983J	ST BID30X08STL BNI EARTH LOCK
21-B	ZS-322580	ST BID40X08STL BNI
21-G	ZS-322570	ST BID40X08STL NI3
22-B	SK-402585J	KNOB FUNCTION-B
22-G	SK-402586J	KNOB FUNCTION-G
23	ZG-402608J	SP PUSH BUTTON

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

FINAL ASSEMBLY BLOCK



ABBREVIATIONS (AMPLIFIER)

ABBREVIATION	EXPLANATION
A	Analog
AC	Alternating Current
AMP	AMPlifier
CD	Compact Disc
COM	COMmon
D	Digital
D/A	Digital to Analog
DAC	Digital to Analog Converter
DAT	Digital Audio Tape recorder
DC	Direct Current
GND	GrouND
L	Left
LED	Light Emitting Diode
MC	Moving Coil
MM	Moving Magnet
PCB	Printed Circuit Board
R	Right
REG	REGulator
REC	RECord
TR	TRansistor
SW	SWitch
V.AMP	Voltage AMPlifier
V.DISC	Video DISC
VR	Variable Resistance
VTR	Video Tape Recorder

AKAI

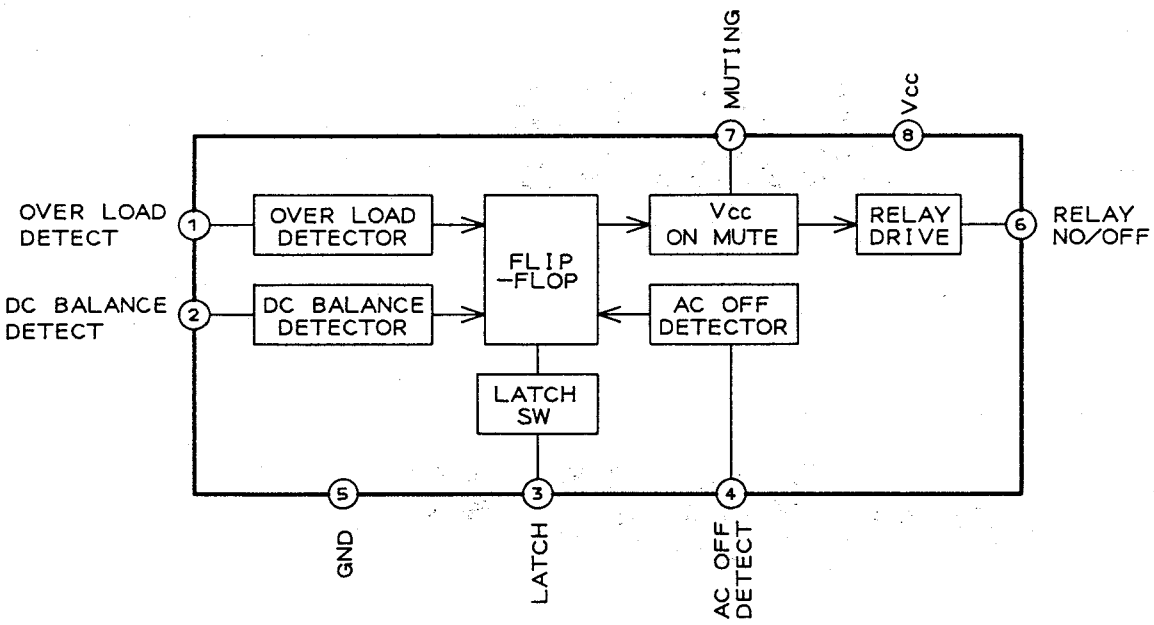
MODEL AM-37, 47

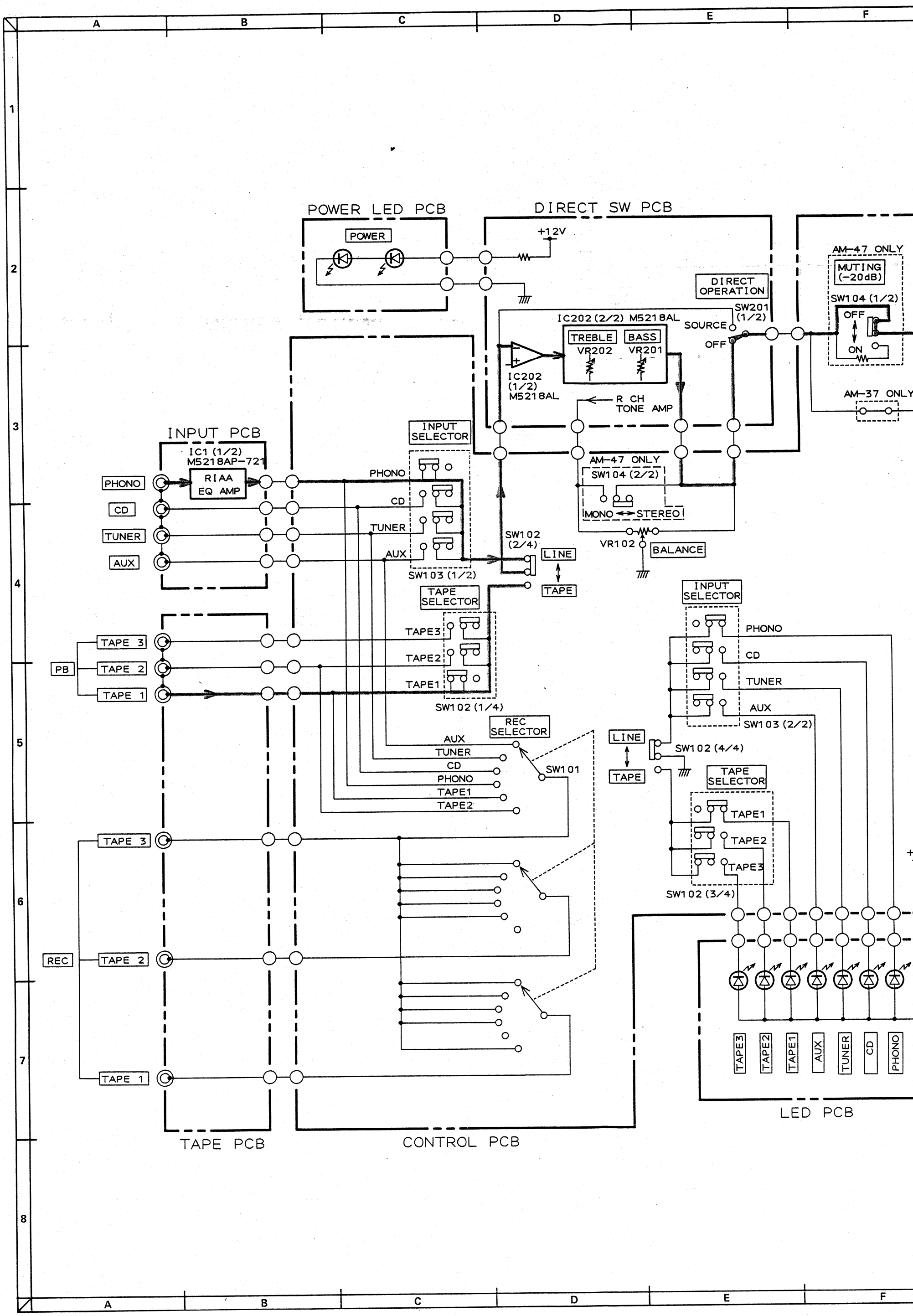
SCHEMATIC DIAGRAMS AND PC BOARDS

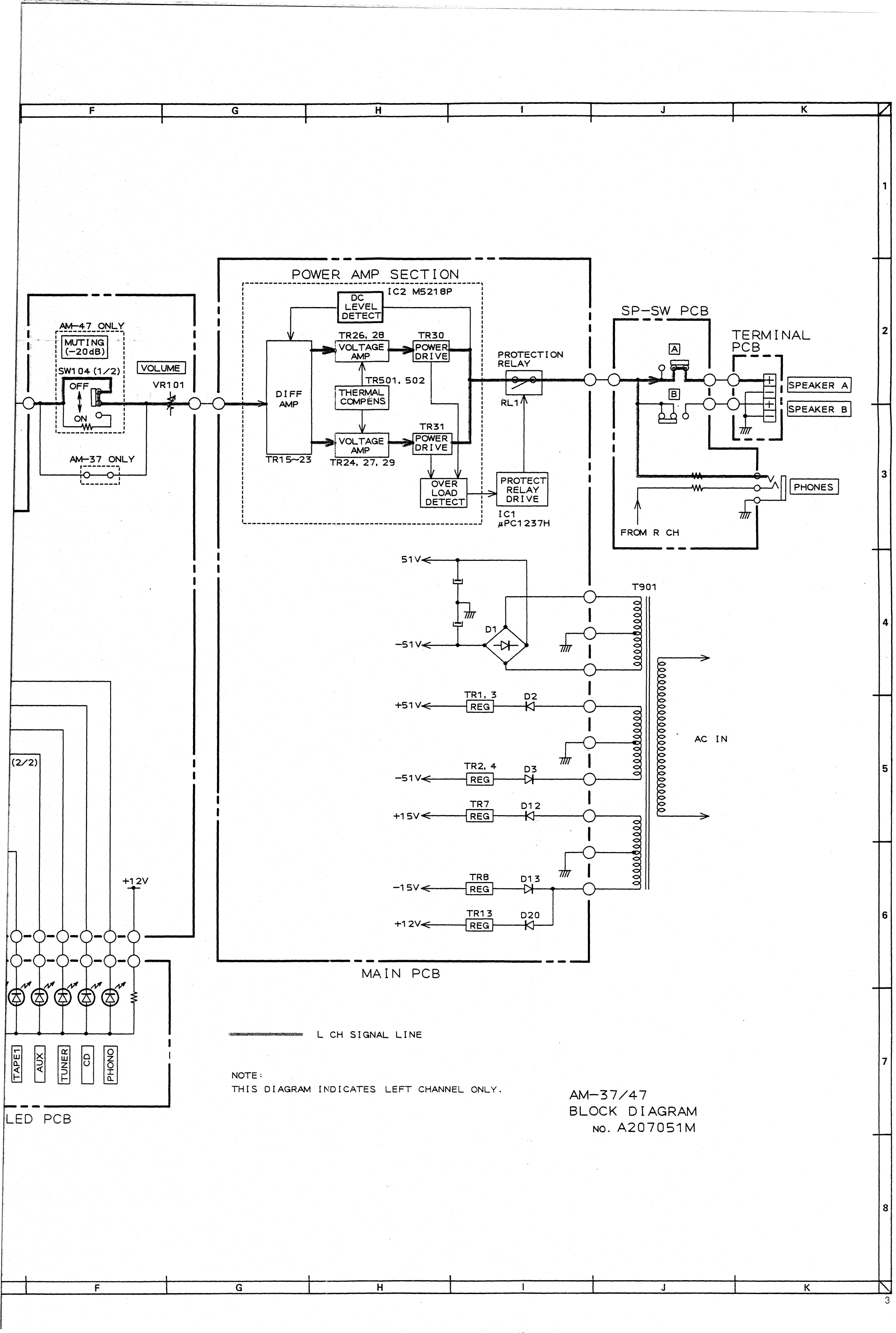
TABLE OF CONTENTS

1. INFORMATION OF IC 2
2. BLOCK DIAGRAM 3
3. MAIN AMP & CONNECTION DIAGRAM 4
4. MAIN AMP AND OTHER PC BOARDS 5
5. CONTROL & INPUT SCHEMATIC DIAGRAM 6
6. CONTROL AND OTHER PC BOARDS 7
7. INPUT PC BOARD 8

μPC1237H (PROTECT RELAY DRIVE)




POWER LED PCB
POWER
DIRECT SW PCB
+12V
DIRECT OPERATION
SW201 (1/2)
SOURCE
OFF
IC202 (2/2) M5218AL
TREBLE
BASS
VR202
VR201
IC202 (1/2) M5218AL
R CH TONE AMP
AM-47 ONLY
MUTING (-20dB)
SW104 (1/2)
OFF
ON
AM-37 ONLY
INPUT PCB
IC1 (1/2) M5218AP-721
RIAA EQ AMP
PHONO
CD
TUNER
AUX
INPUT SELECTOR
SW103 (1/2)
SW104 (2/2)
MONO ↔ STEREO
VR102
BALANCE
SW102 (2/4)
LINE
TAPE
TAPE SELECTOR
SW102 (1/4)
TAPE 3
TAPE 2
TAPE 1
PB
REC
REC SELECTOR
SW101
SW102 (4/4)
SW103 (2/2)
SW102 (3/4)
LED PCB
TAPE PCB
CONTROL PCB


POWER AMP SECTION
IC2 M5218P
DC LEVEL DETECT
TR26, 28
VOLTAGE AMP
TR30
POWER DRIVE
TR501, 502
THERMAL COMPENS
DIFF AMP
TR15~23
TR31
VOLTAGE AMP
POWER DRIVE
TR24, 27, 29
OVER LOAD DETECT
PROTECT RELAY DRIVE
IC1 μPC1237H
PROTECTION RELAY
RL1
SP-SW PCB
TERMINAL PCB
A
B
SPEAKER A
SPEAKER B
PHONES
FROM R CH
AM-47 ONLY
MUTING (-20dB)
SW104 (1/2)
OFF
ON
VOLUME
VR101
AM-37 ONLY
(2/2)
+12V
TAPE1
AUX
TUNER
CD
PHONO
LED PCB
51V
-51V
D1
T901
TR1, 3
REG
+51V
D2
TR2, 4
REG
-51V
D3
TR7
REG
+15V
D12
TR8
REG
-15V
D13
TR13
REG
+12V
D20
AC IN
MAIN PCB
L CH SIGNAL LINE
NOTE:
THIS DIAGRAM INDICATES LEFT CHANNEL ONLY.
AM-37/47
BLOCK DIAGRAM
NO. A207051M

LED PCB A2069A501E

J401 J402

P101: TAPE1 TAPE2 TAPE3 PHONO GND

P102: CD TUNER AUX LED 12V GND

CONTROL PCB
A2069A501B

INPUT PCB
A2069A501A

J1: PHONO, CD, TUNER, AUX (L, R)

J2

W201: PHONO L, GND, PHONO R, GND, CD L, GND, CD R

W202: TUNER L, GND, TUNER R, GND, AUX L, GND, AUX R

W203: T3 PB R, GND, T2 PB R, GND, T1 PB R

W204: T1 PB L, GND, T2 PB L, GND, T3 PB L

W205: +15V, GND, −15V

TAPE PCB
A2069A501D

J301: TAPE1 PB/REC, TAPE2 PB/REC, TAPE3 PB/REC

W211: T1 PB R, T2 PB R, T3 PB R, GND, T3 PB L, T2 PB L, T1 PB L → J3

J302

W312: T1 REC R, T3 REC R, T2 REC R, GND, T2 REC L, T3 REC L, T1 REC L

J101: T1 REC R, T3 REC R, T2 REC R, GND, T2 REC L, T3 REC L, T1 REC L

W206: L−CH IN, GND, R−CH IN, GND, DIRECT SW·R, GND, DIRECT SW·L

W207: TONE OUT·L, GND, TONE OUT·R, GND, TONE IN·R, GND, TONE IN·L, GND, +12V, +15V, GND, −15V

DIRECT SW PCB
A2069A501C

W208: L OUT, GND, R OUT → J2

W213: GND, GND → J3

W210: LED 12V, GND

POWER LED PCB
D501 D502
A2069A501F

W209: GND, +12V, +15V, GND, −15V → J1

D24 D25 HZ20L1

R15 1W 15K

R16 1.5K

R17 1.5K

TR15, TR17 2SC2909(S, T)
TR16, TR18 2SK170BL

TR15 45.1V 10.7V

TR16 10.1V

TR18 10.1V

R13 100

R14 1W

C19

D23 HZ11B

R18 1W 68

R19 1W 68

0V 0.2V 0.2V

C19 100P/125 (J)

FR1 1/4W 1K

TR23 2SC2910 (S, T)
−9.7V −51.3V

50.7V

R21 47K

R22 56

D26 D27 1S2473

R52 2.7K

IC2 M5218P

0.2V 1/2 0V 0V

C31 3.3/50

R51 47K

C43 0.001 (J) ▽ ONLY

▽ ONLY
C41 0.01 (J)

C31b 15.4V

R62 68

−0.6V 2/2 0V 0V

R63 68

−15.5V

R52b

C42 0.01 (J)

▽ ONLY

R22b D26b D27b

TR23b

FR1b R21b

R14b C19b D23b R18b R19b

R13b

TR16b TR15b TR17

D24b R16b R17b D25b

B (POWER SUPPLY) LINE

SIGNAL LINE

R23 AM-37 91Ω
AM-47 75Ω

MAIN AMP PCB ⚠ A2061A501A

D24 D25 HZ20L1

TR19, TR20
TR21, TR22
2SA970BL

TR15 TR16 TR17 TR18 TR20 TR21 TR22 TR23 TR24 TR25 TR26 TR27 TR28 TR29 TR31 TR32 TR501 TR502

THERMO PCB

A2061A501F

IC1 μPC1237H

IC2 M5218P

*R23

C19 100P/125 (J)

*R46
AM-37: 2W 1.2K
AM-47: 2W 1.3K

L1 2.2μH (K)

*TR30 *TR31
AM-37 2SC3855 (P, Y) 2SA1491 (P, Y)
AM-47 2SC3856 (P, Y) 2SA1492 (P, Y)

*D32, D33 1S2473

RL1 V824SMBU-522UL

SP-SW PCB A2061A501D

HEADPHONE

SPEAKERS A

SPEAKERS B

TERMINAL PCB A2061A501C

V ONLY

TR1 2SA1392 (S, T)
D4 BG5525S

D6, D8 HZ30
D7, D9 HZ18 AM-47
HZ15 AM-37
D5 BG5525S
TR2 2SC3383 (S, T)
TR4 2SA1248 (S, T)

TR7 2SD1266 (P, Q)
TR8 2SB941 (P, Q)
TR13 2SD1266 (P, Q)
TR6 2SK246BL

D13, D12 1N4002
D20 1N4002

*C1, C2
8200/63 AM-47
8200/56 AM-37

D1 RBV602

T901 ⚠

FUSE PCB ⚠

A2070-EV AM-47
A2069-EV AM-37

AC220V/230V 50Hz

A2062-BS AM-47
A2063-BS AM-37

AC240V 50Hz

		F1	F2	F3	F4	F5	F6
AM-37							
	E V B S	T2.5A		T500mA	T500mA	T500mA	T500mA
AM-47							
	E V B S	T3.15A		T500mA	T500mA	T500mA	T500mA

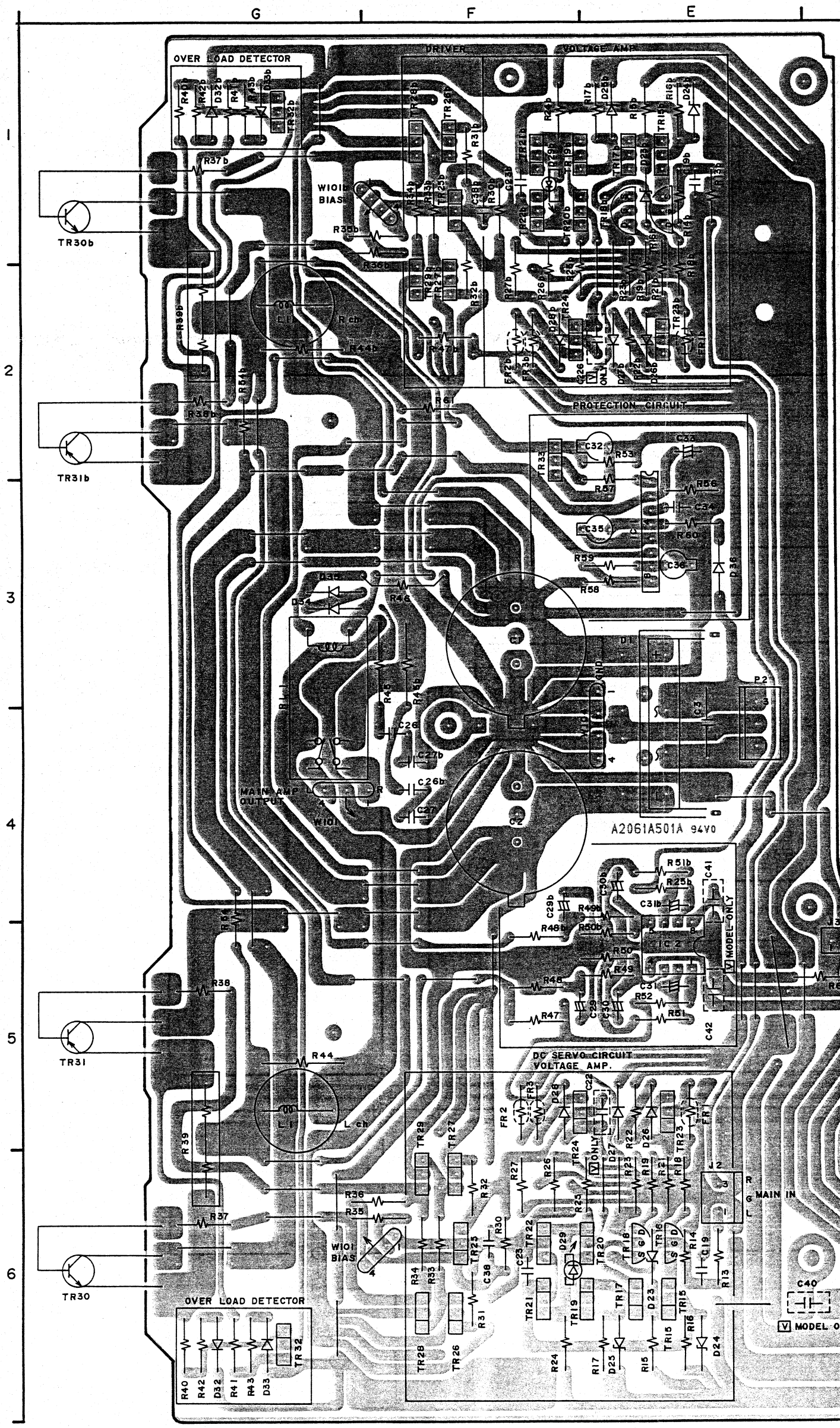
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μF 50WV (M)

WARNING: ⚠ AND INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET , ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

AM-37/47
MAIN AMP & CONNECTION DIAGRAM

NO.2-1 A206901M



MAIN PCB A2061A501A

PRINCIPAL PARTS LOCATION

ICS

IC1.....E3
IC2.....E5

CONNECTORS & WIRES

J1.....D6
J2.....E6
J3.....D5
P1.....A,B5
P2.....E4
W101.....F6
W101b.....F1
W103.....G4
W104.....E4

TRANSISTORS

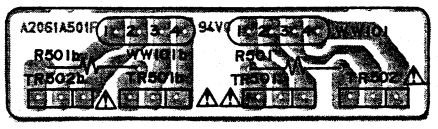
TR1.....A6
TR2.....B6
TR3.....B6
TR4.....B6
TR5.....D5
TR6.....D5
TR7.....D5
TR8.....D5
TR13.....C6
TR15.....E6
TR15b.....E1
TR16.....E6
TR16b.....E1
TR17.....E6
TR17b.....E1
TR18.....E6
TR18b.....E1
TR19.....E,F6
TR19b.....E,F1
TR20.....E,F6
TR20b
TR21.
TR21b
TR22.
TR22b
TR23.
TR23b
TR24.
TR24b
TR25.
TR25b
TR26.
TR26b
TR27.
TR27b
TR28.
TR28b
TR29.
TR29b
TR30.
TR30b
TR31.
TR31b
TR32.
TR32b
TR33.

C B A

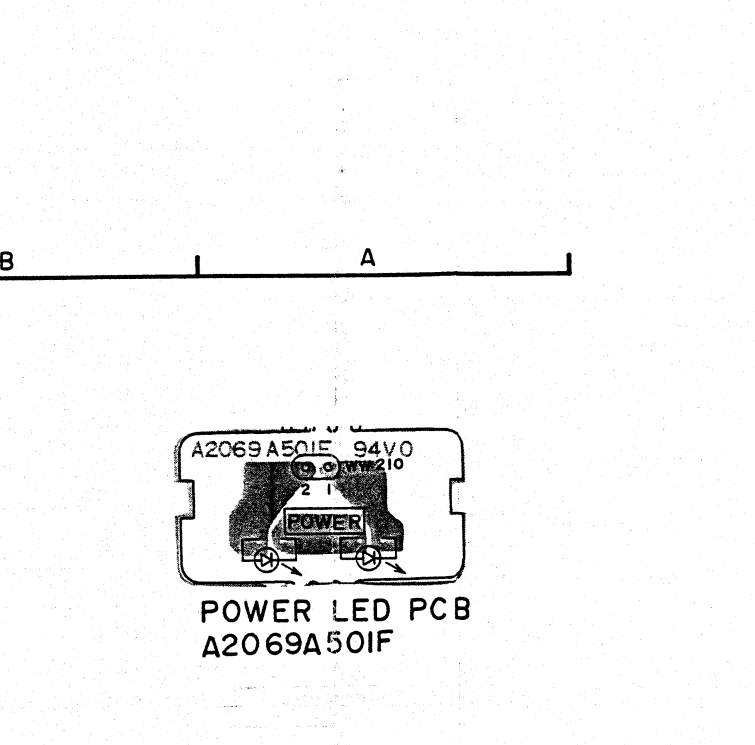
AL PARTS LOCATION

....E3	TR20b.....E,F1
....E5	TR21.....F6
	TR21b.....F1
ORS & WIRES	TR22.....F6
....D6	TR22b.....F1
....E6	TR23.....E5
....D5	TR23b.....E2
....A,B5	TR24.....F5
....E4	TR24b.....E,F2
....F6	TR25.....F6
....F1	TR25b.....F1
....G4	TR26.....F6
....E4	TR26b.....F1
TORS	TR27.....F6
....A6	TR27b.....F2
....B6	TR28.....F6
....B6	TR28b.....F1
....B6	TR29.....F6
....D5	TR29b.....F2
....D5	TR30.....G6
....D5	TR30b.....G1
....D5	TR31.....G5
....C6	TR31b.....G2
....E6	TR32.....G6
....E1	TR32b.....G1
....E6	TR33.....F2
....E1	
....E6	
....E1	
....E6	
....E1	
....E,F6	
....E,F1	
....E,F6	

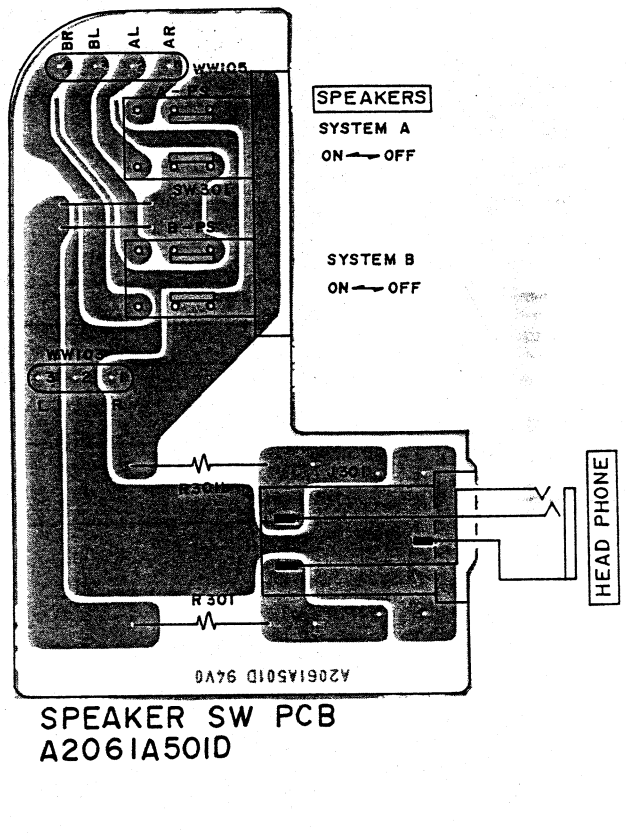
POWER LED PCB
A2069A501F



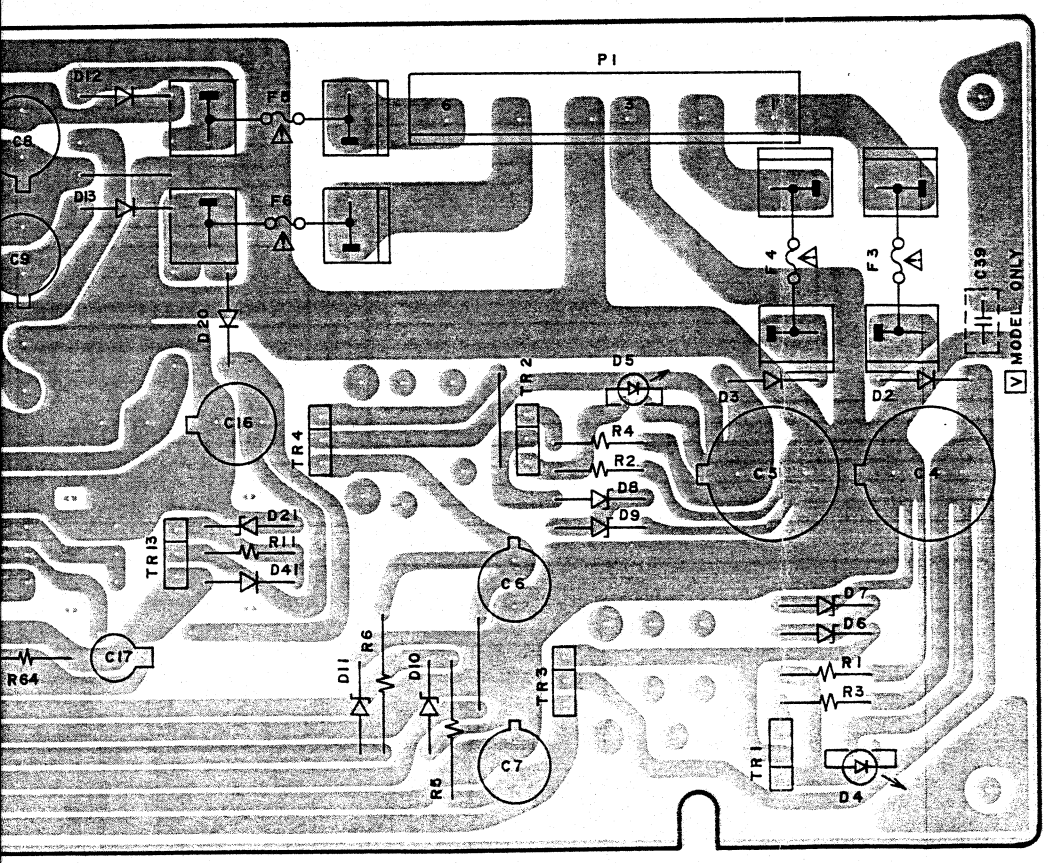
THERMO PCB A2061A501F

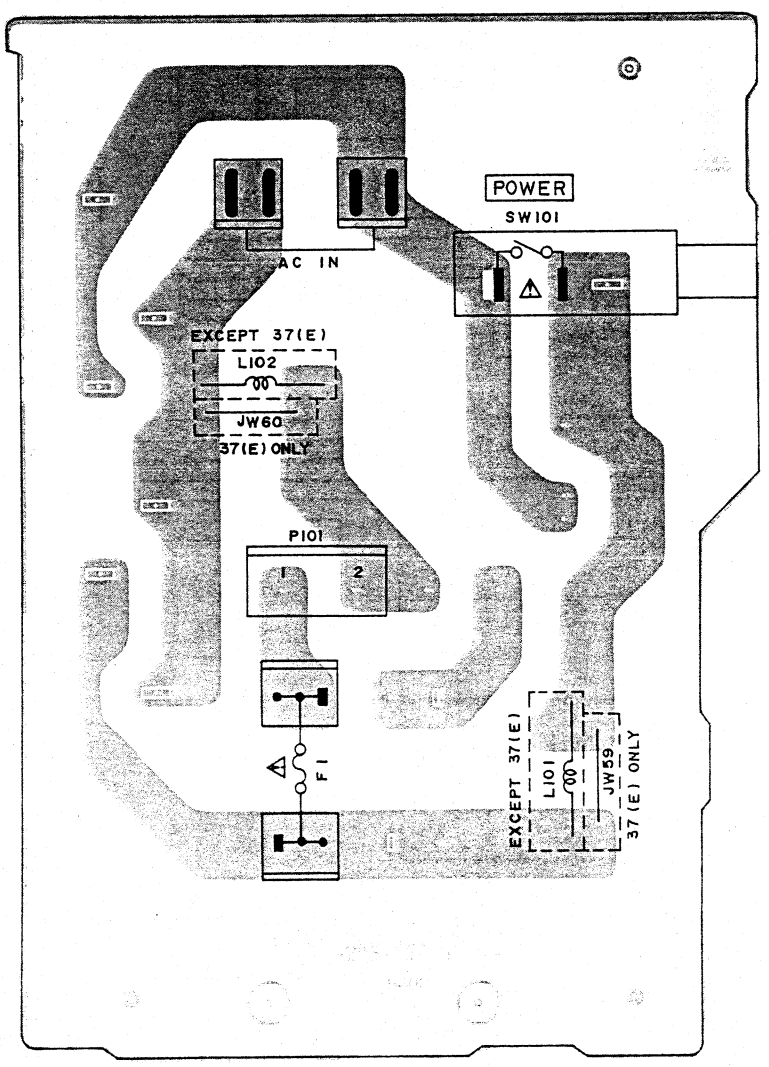


TERMINAL PCB A2061A501C



SPEAKER SW PCB
A2061A501D



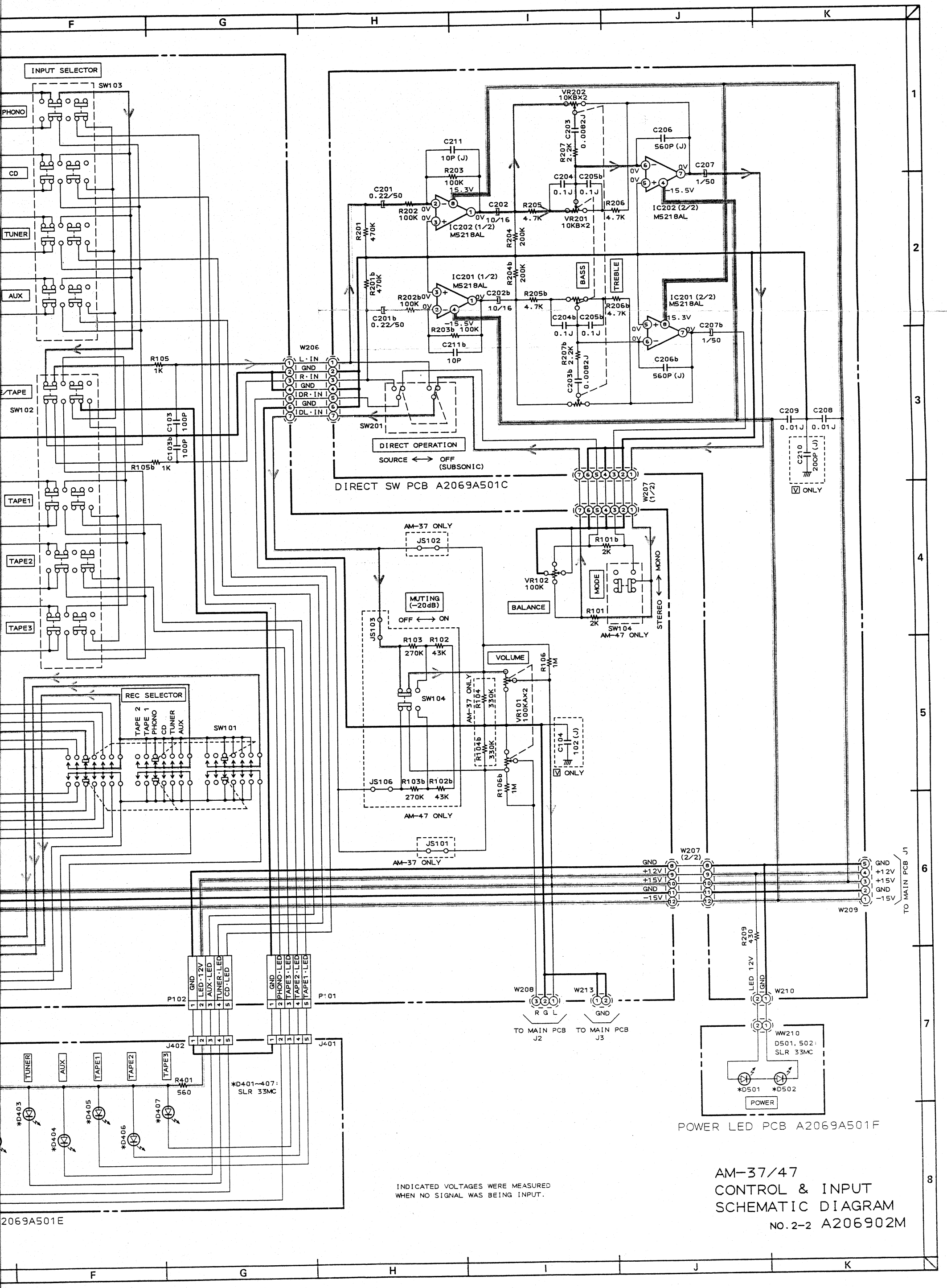


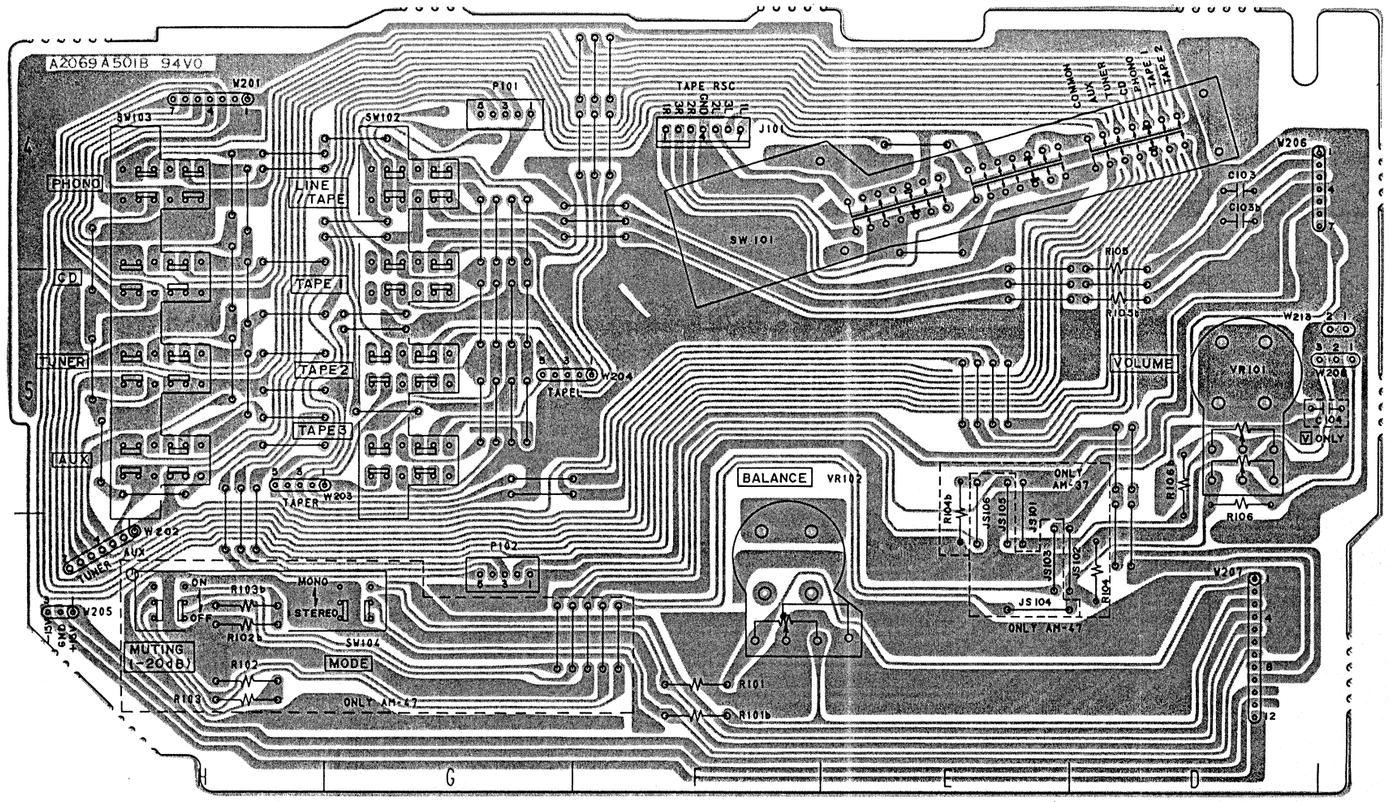
FUSE PCB A2061A501B

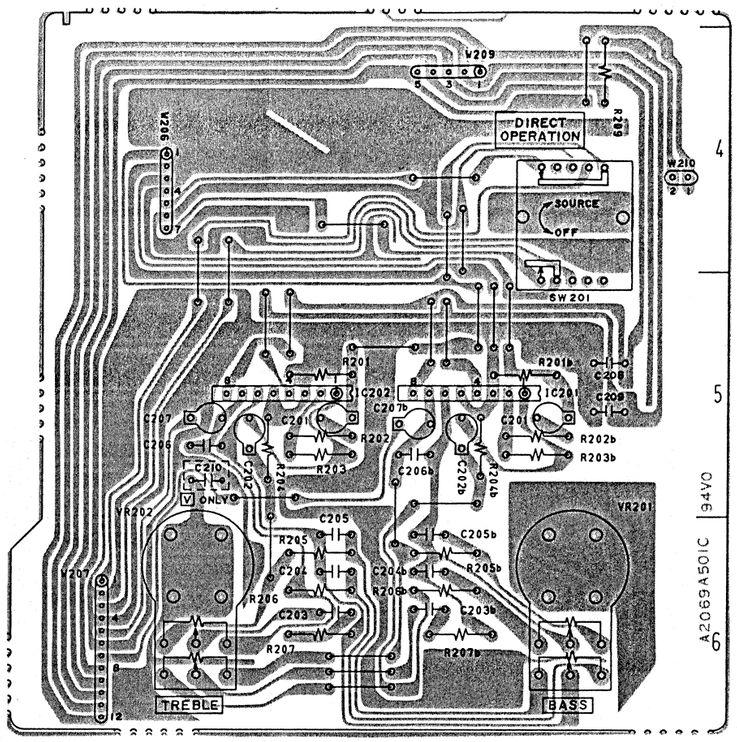
WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

INPUT SELECTOR
SW103
PHONO
CD
TUNER
AUX
TAPE1
TAPE2
TAPE3
LINE/TAPE
SW102
J1
ONLY
IC1 (1/2) M5218AP-721
IC1 (2/2) M5218AP-721
15.3V
R10 2.4K
R2 1.5K
C1 1/50
R7 330
C6 3.3/50
R9 470
R5 430K
R6 33K
C4 0.0022
C5 0.0082
C10 100P
R1 270K
C2 100P
R3 56K
R4 680
C3 100/10
C12 0.01J
C7 0.0033
R8 220K
C4b 0.0022
C5b 0.0082
R5b 430K
R6b 33K
C2b 100P
R3b 56K
R4b 680
C3b 100/10
C7b 0.0033
R8b 220K
C10b 100P
R1b 270K
R10b 2.4K
R2b 1.5K
C1b 1/50
R7b 330
C6b 3.3/50
R9b 470
C11 0.01J
FR1 1/4W 82
FR2 1/4W 82
C9 47/25
C8 47/25
15.5V
W201
PHONO L·IN
GND
PHONO R·IN
GND
CD L·IN
GND
CD R·IN
W202
TUNER L·IN
GND
TUNER R·IN
GND
AUX L·IN
GND
AUX R·IN
W204
TAPE 1 L·IN
GND
TAPE 2 L·IN
GND
TAPE 3 L·IN
W203
TAPE 1 R·IN
GND
TAPE 2 R·IN
GND
TAPE 3 R·IN
+15V
GND
-15V
W205
J3
PB 1·L
PB 2·L
PB 3·L
GND
PB 3·R
PB 2·R
PB 1·R
INPUT PCB A2069A501A
R11 100
R12 100
R13 100
J2
W211
W212
J101
REC 1·L
REC 3·L
REC 2·L
GND
REC 2·R
REC 3·R
REC 1·R
CONTROL PCB A2069A501B
J301 (1/2)
J302 (1/2)
J301 (2/2)
J302 (2/2)
R304 100
R305 100
R306 100
R301 1K
R302 1K
R303 1K
P.B
REC
TAPE PCB A2069A501D
B (POWER SUPPLY) LINE
SIGNAL LINE (WHEN "PHONO" IS SELECTED)
*D401
*D402
*D403
*D404
*D405
*D406
LED PCB A2069A501E

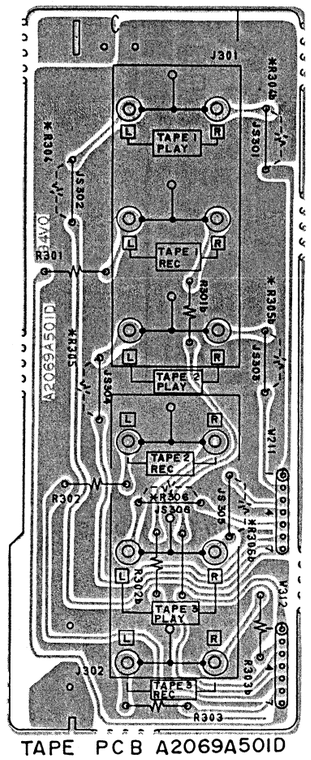

INPUT SELECTOR
SW103
PHONO
CD
TUNER
AUX
TAPE1
TAPE2
TAPE3
SW102
R105 1K
R105b 1K
C103 100P
C103b 100P
W206
L·IN
GND
R·IN
GND
DR·IN
GND
DL·IN
SW201
DIRECT OPERATION
SOURCE ⟷ OFF
(SUBSONIC)
DIRECT SW PCB A2069A501C
VR202 10KBx2
C203 0.0082J
R207 2.2K
C206 560P (J)
C211 10P (J)
R203 100K 15.3V
C201 0.22/50
R202 100K
C202 10/16
R205 4.7K
C204 0.1J
C205b 0.1J
VR201 10KBx2
R206 4.7K
IC202 (1/2) M5218AL
IC202 (2/2) M5218AL
C207 1/50
-15.5V
R201 470K
R204 200K
IC201 (1/2) M5218AL
R201b 470K
R204b 200K
R202b 100K
C202b 10/16
R205b 4.7K
BASS
TREBLE
R206b 4.7K
C201b 0.22/50
R203b 100K
C211b 10P
C204b 0.1J
C205b 0.1J
IC201 (2/2) M5218AL
15.3V
C207b 1/50
R207b 2.2K
C203b 0.0082J
C206b 560P (J)
C209 0.01J
C208 0.01J
C210 200P (J)
ONLY
W207 (1/2)
AM-37 ONLY
JS102
R101b 2K
VR102 100K
BALANCE
MODE
MONO
STEREO
R101 2K
SW104 AM-47 ONLY
MUTING (-20dB)
OFF ⟷ ON
JS103
R103 270K
R102 43K
VOLUME
R106 1M
SW104
AM-37 ONLY
R104 330K
VR101 100KAx2
C104 102 (J)
JS106
R103b 270K
R102b 43K
R106b 1M
AM-47 ONLY
JS101
AM-37 ONLY
REC SELECTOR
SW101
TAPE 2
TAPE 1
PHONO
CD
TUNER
AUX
W207 (2/2)
GND
+12V
+15V
GND
-15V
W209
TO MAIN PCB J1
R209 430
LED 12V
GND
W210
P102
P101
GND
LED·12V
AUX·LED
TUNER·LED
CD·LED
GND
PHONO·LED
TAPE3·LED
TAPE2·LED
TAPE1·LED
J402
J401
W208
R G L
TO MAIN PCB J2
W213
GND
TO MAIN PCB J3
WW210
D501, 502: SLR 33MC
*D501
*D502
POWER
POWER LED PCB A2069A501F
TUNER
AUX
TAPE1
TAPE2
TAPE3
R401 560
*D401~407: SLR 33MC
*D403
*D404
*D405
*D406
*D407
2069A501E
INDICATED VOLTAGES WERE MEASURED WHEN NO SIGNAL WAS BEING INPUT.
AM-37/47
CONTROL & INPUT
SCHEMATIC DIAGRAM
NO.2-2 A206902M





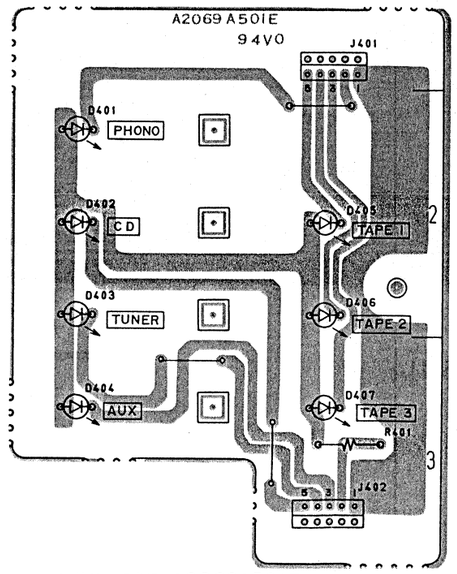
DIRECT SW PCB A2069A501C

CONTROL PCB A2069A501B

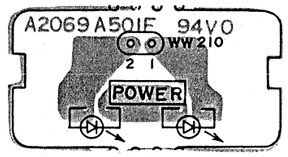


TAPE PCB A2069A501D

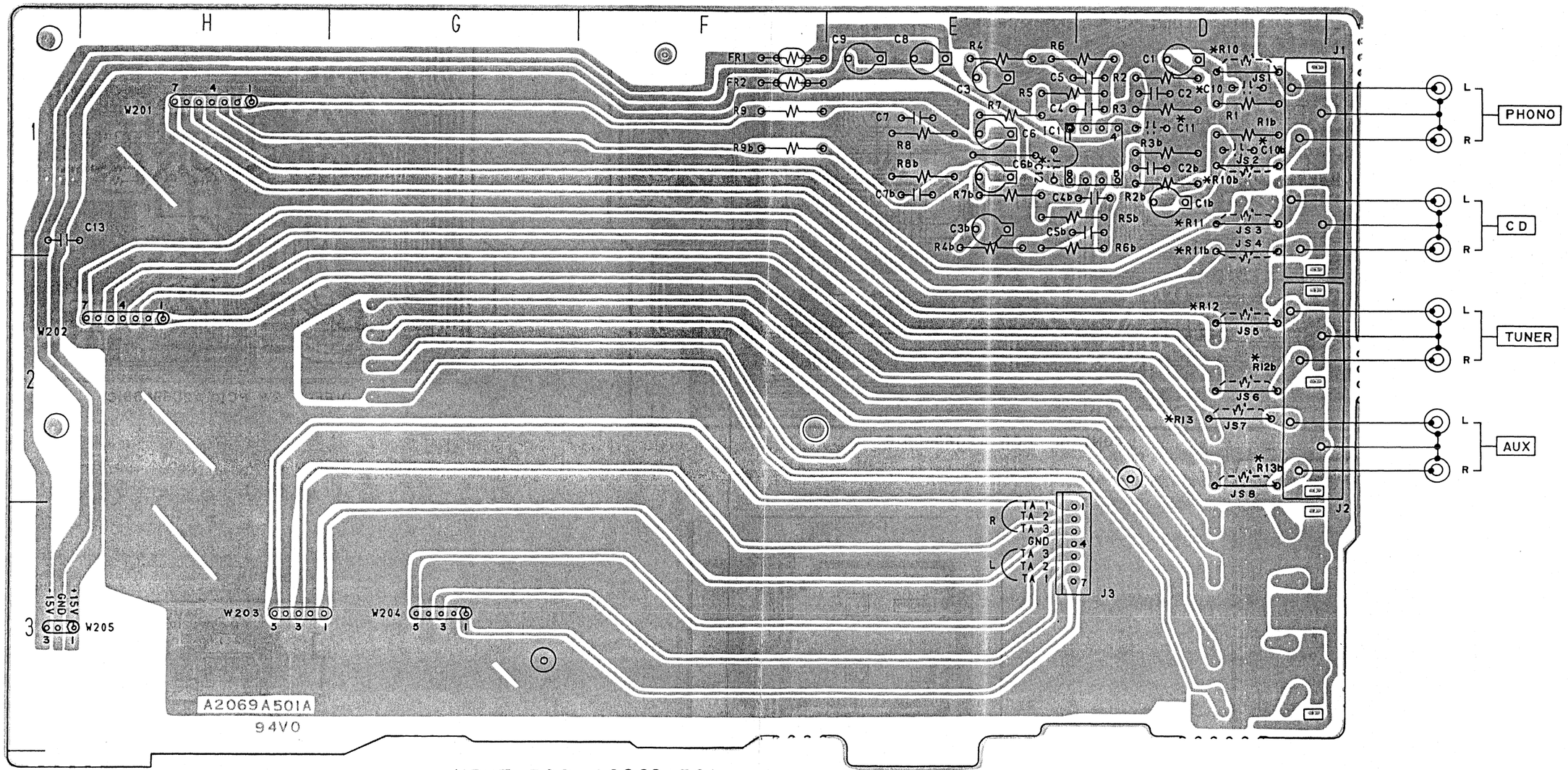
NOTE : PARTS INDICATED WITH * MARK ARE USED FOR V MODEL ONLY.
JS301 to JS306 ARE USED FOR B AND E MODELS.



LED PCB A2069A501E



POWER LED PCB
A2069A501F



INPUT PCB A2069A501A

NOTE : PARTS INDICATED WITH * MARK ARE USED FOR [V] MODEL ONLY.
JS1 to JS8 ARE USED FOR [B] AND [E] MODELS.